

Powering Good for Sustainable Energy

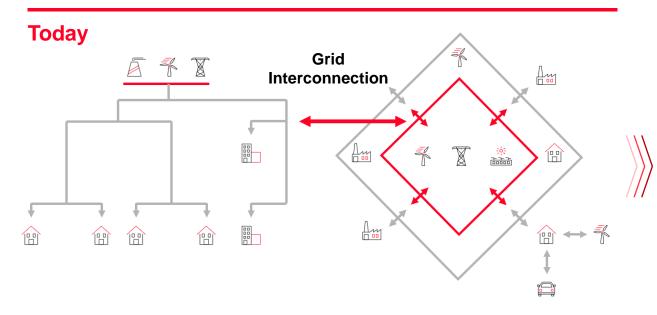
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CEO, Hitachi ABB Power Grids Ltd

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Power systems of the future – an evolutionary vision

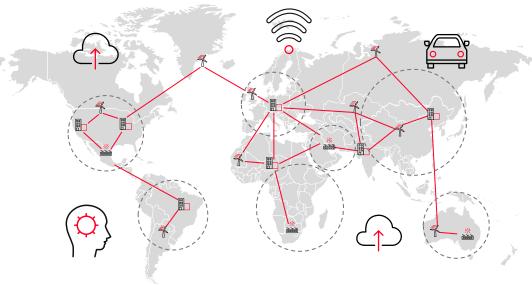




Factors:

- Full scale deployment of renewables across all regions
- Increased share of energy by wire and distributed energy resources
- Massive introduction of grid connected electrical vehicles
- Decarbonization, decentralization, bi-directional flows

Tomorrow



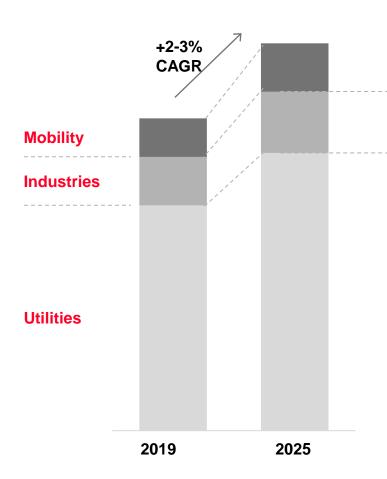
- Utilities adjusting to new, additional business model
- Fully flexible power exchange with related data transfer ("Internet of Energy")
- Real-time control and higher security
- Artificial Intelligence(AI) enabling complex autonomous processes

Grids of the future demand flexibility, resilience, intelligence and interconnectivity

Attractive market with high growth segments



Global market ~approx. \$100B* USD



HVDC: High Voltage Direct Current FACTS: Flex AC Transmission system

Customer value proposition

Reliable, high-quality power to electrify transport and datacenters

Grid integration and / or self-sufficiency via microgrids

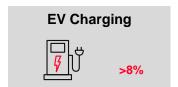
Partner of choice for enabling a stronger, smarter & greener grid

Stronger to connect new consumers and ensure security of supply

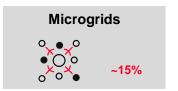
Smarter for more cost-effective operations and maintenance

Greener via the integration of more renewables

High-growth segments (ex.)*



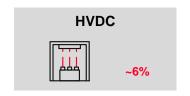














*Hitachi ABB Power Grids estimates

CAGR 2017-25

Power Grids global footprint





World's largest installed base



4 business units

- Grid Automation
- Grid Integration
- High Voltage
- Transformers



Present in ~90 countries 200 offices globally



115 factories



36,000 employees



+100 years of pioneering innovation



~5,500 sales employees and field engineers

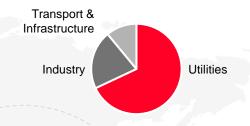


~2,000 engineers & scientists in R&D

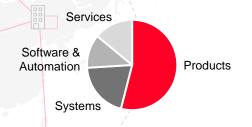


Headquarters in **Zurich, Switzerland**

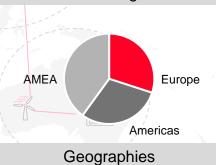
Business mix (by revenue)



Customers



Offering



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The 4 pillars of the world's #1 power grids business





Grid Automation



- Supporting 50% of the top 250 global electric utilities with leading portfolio
- ~US \$4 trillion mission critical infrastructure assets managed with our software solutions
- ~480 million electricity consumers

Grid Integration



- ~15,000 systems operating around the world
- Leader in FACTS and power quality
- Leader in HVDC systems with 130+ GW installed

High Voltage Products



- Up to **1200 kilovolts AC** and 1100 kilovolts DC, leading portfolio
- 1 in every 4 high-voltage switchgear installed in the world
- Over 100 locations worldwide provide 24/7 service support

Transformers

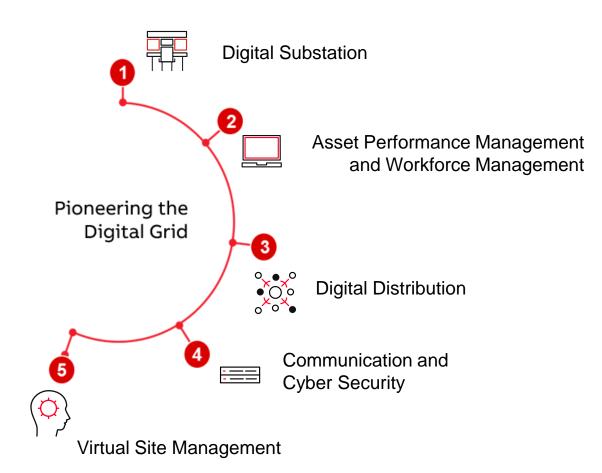


- Complete range of power, distribution, traction transformers, components, services
- Up to 1200 kV AC and 1100 kV DC, leading portfolio
- ~60 factories around the world and ~30 service centers

Pioneering the digital grid



- Substation Automation, **Digital Substation**
- **Distribution Automation**
- **Mission-critical Communications**
- Service & Digital Solutions
- Grid Edge Solutions
- Network Control
- Energy Portfolio Management





Create new values for customers with AI based cutting-edge data analytics and optimizing technology

Hitachi ABB Power Grids





Powering good for a sustainable energy future, with pioneering and digital technologies, as the partner of choice for enabling a stronger, smarter and greener grid.

Utilities

Industry

Infrastructure

Products and components

Broadest portfolio and footprint



Software and automation

Deepest application know-how





Systems

Technology and innovation leader





Service

Largest installed base





Planning and building solutions



Global Technology and Market Leader

Digital grid pioneer

Operations and maintenance solutions



OT



IT

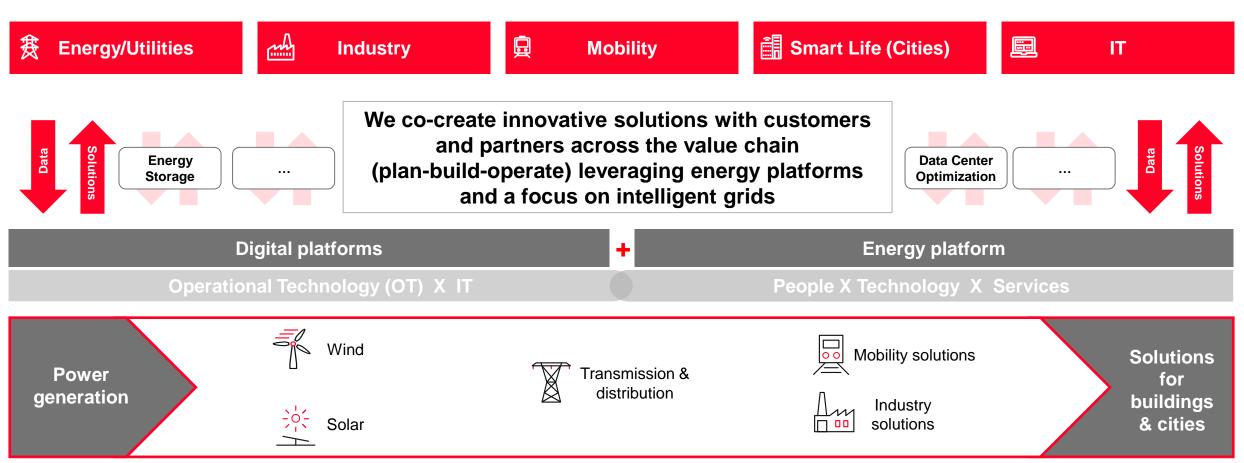
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Hitachi & Power Grids: Powering good for sustainable energy



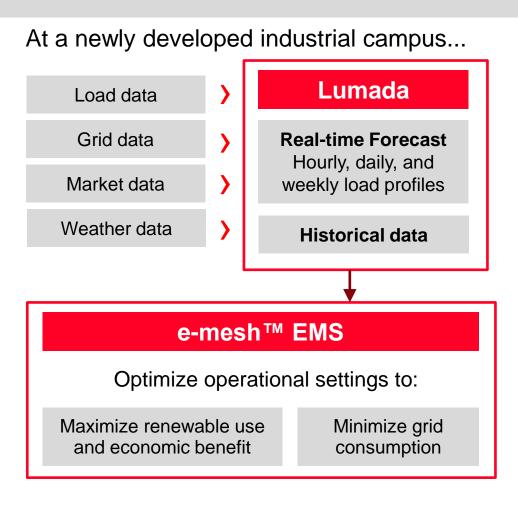


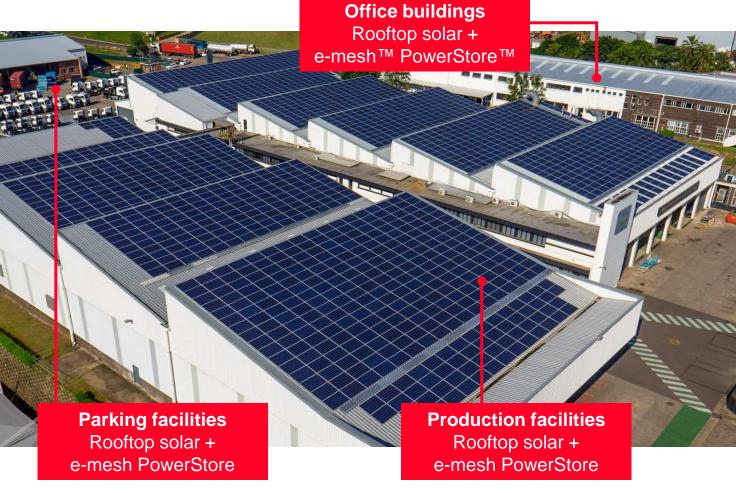
Technology and business model innovation leveraging collaboration on Digital & Energy Platforms





Uniting real-time forecasting and historical data to deliver operational efficiencies





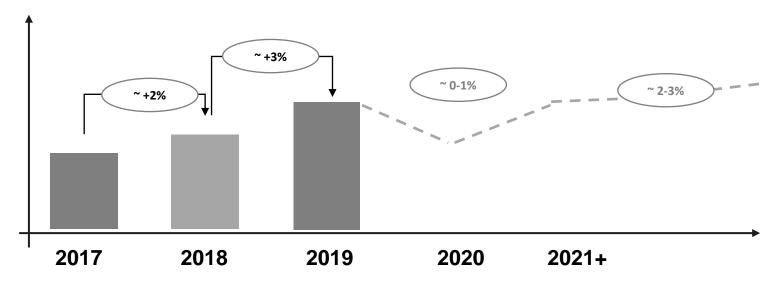
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COVID-19 impact on market perspectives





Pandemic causing temporary dip, but market recovery expected 2021+

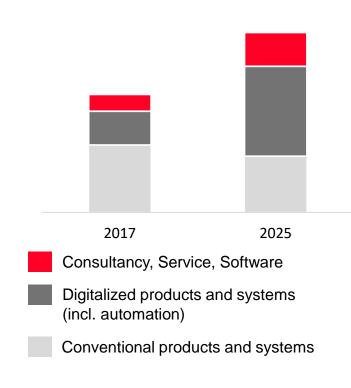


Team up, collaborate and prioritize to manage and overcome the crisis

Power Grids Vision 2025



Growth and portfolio shift



Ambition



Double % of revenues from service



Fully digitalized portfolio

#1



Grid planning
Grid automation and software
Renewables integration
and storage



Best-in-class, quality, delivery and operations

Grow faster than the market
Strengthen #1 market position
Key SDGs* embedded - Focus on 7 SDGs



Powering good for a sustainable energy future, with pioneering and digital technologies, as the partner of choice for enabling a stronger, smarter and greener grid.

In summary



Powering good for a sustainable energy future, with pioneering and digital technologies, as the partner of choice for enabling a stronger, smarter and greener grid.



Sustainable Energy in Focus

Hitachi ABB Power Grids, a new leader committed to a sustainable energy transition.



Profitable and Sustainable Growth

Attractive markets combined with the transformation initiatives strengthens our competitive position, enabling profitable and sustainable growth.



Focus on Customers and People

Power Grids continue to focus on customers and people, preserve business performance in times of unprecedented crisis while preparing for the "new norm" and for the new growth opportunities with Hitachi.



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